Records of Rare Hawaiian Decapod Crustacea

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WITHIN THE PAST YEAR four crustaceans which are rare or previously unknown in Hawaii have been collected. Since these records are of importance to both taxonomists and students of animal distribution, it has been deemed worth while to make them available. The specimens are deposited in the collection of the University of Hawaii Marine Laboratory.

Suborder NATANTIA

Family RHYNCHOCINETIDAE

Rhynchocinetes rigens Gordon

Known previously only from the island of Madeira (Gordon, 1936: 76) and from Bermuda (Burkenroad, 1939: 310; Gurney and Lebour, 1941: 113), this shrimp is found on and just off the reef on the south shore of the island of Oahu, Hawaiian Islands. This species, the only one of the six recognized members of the genus known to occur in the Atlantic, has not been found in the Pacific previously. Since it has been found in Hawaii, which is the eastern limit of the most widely distributed Indo-Pacific species, it is reasonable to suppose that it occurs in many other Pacific regions west of Hawaii, but thus far it has not been recorded. Perhaps the late discovery of this species in an area in which so much collecting has been done may be attributed to the fact that here, as in Bermuda, this species occurs as a sedentary, nocturnal, littoral form and thus would not be easily collected unless suitable collecting gear were used. The smallest Hawaiian specimens were taken with the aid of a light and a dip net; the larger ones were taken from a fine-meshed fish trap set in approximately 6 fathoms off Diamond Head, Oahu. One female specimen collected on February 19, 1947, was ovigerous.

Hawaiian specimens ranged in length from 55 to 115 millimeters compared to a range of from 80 to 97 millimeters for the specimens from Madeira.

The vertical striae on the carapace are well developed in both sexes but are most conspicuous in the males. The third tooth behind the articulation of the rostrum is largest in all the Hawaiian specimens, as it is in the holotype. All Hawaiian specimens have 9 ventral teeth on the rostrum, whereas the holotype has 8. No significance may be attached to this feature, however, because the ventral teeth on the rostra of the paratypes vary from 7 to 11. The dorsal teeth of the rostrum are arranged similarly to those of the holotype. In the Hawaiian females the articulation of the rostrum extends less than half way to the strong lateral ridge, whereas in the holotype it extends almost to the ridge. In males from both localities the articulation extends to the ridge.

No significant differences were noted between the appendages of the holotype and those of the Hawaiian specimens except in the first pleopod of the females. The Hawaiian specimens have a broad, scale-like protuberance extending from the disto-lateral area of the protopodite as far as the basal one-fourth of the exopod. The lateral and distal margins of this protuberance are thickly clothed with setae.

The branchial formula of Hawaiian specimens is identical with that of the Madeiran specimens, which differs from the branchial formula of *R. typus* M.-Edw. in that the arthrobranch corresponding to the fourth pereiopod

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(on XIII.) is absent. The total number of arthro- and pleurobranchs on IX. to XIV. is thus 10 instead of 11. Well-developed epipodites occur on all the pereiopods with the exception of XIV.

Rhynchocinetes rugulosus Stimpson

Although this species is known from the Hawaiian archipelago through a small specimen dredged up in 1902 (Rathbun, 1906:911) by the "Albatross" at French Frigate Shoals in 17 fathoms, and another small specimen taken at Laysan Island in 1923 (Edmondson, 1925:6), a specimen taken off Oahu is the first instance of its occurrence among the main Hawaiian Islands. The species is apparently widespread throughout the Indo-Pacific region, having been first known from Port Jackson, Australia (Stimpson, 1860:36). Later it was collected at Lord Howe Island (McCulloch, 1909:310), the Kermadec Islands (Chilton, 1910:548), the Loyalty Islands (Borradaile, 1916:85), and in Japan (Kemp, 1925:263; Kubo, 1936:1887).

One male specimen 80 millimeters in length was taken in a small-meshed fish trap off Diamond Head, Oahu, along with two large males of *R. rigens.* This specimen is considerably larger than Stimpson's type; it has 5 teeth dorsally near the tip of the rostrum as compared to 3 for the type specimen, and it has 13 teeth below as compared to 12 in the type. These differences are probably within the range of variation for these variable structures. In other morphological aspects no differences from the type are apparent.

Two of the six species comprising the unusual genus *Rhynchocinetes,* in which the rostrum is articulated with the carapace, are now known to occur in Hawaii. They may be distinguished as follows:

1. Two teeth on carapace behind rostral articulation; no tooth on either side of fourth or fifth abdominal somites above posterior edge of pleuron; rostrum without lateral ridge, articulation with carapace complete. . . . *R. rugulosus* Stimpson.

2. Three teeth on carapace behind rostral articulation; a tooth on each side of fourth and fifth abdominal somites above posterior edge of pleuron; rostrum with strong lateral ridge, articulation with carapace incomplete. . . . *R. rigens* Gordon.

Family GNATHOPHYLLIDAE

Hymenocera elegans Heller

A female specimen measuring 55 millimeters in length was taken at a depth of 4 fathoms in a crevice in lava rock encrusted with coral (*Porites lobata*), located about 200 feet toward Kohala from the new dock at Kawaihae on the island of Hawaii. This record represents the second in Hawaiian waters for this bizarre shrimp, and the first record for the island of Hawaii. Edmondson (1935:17) collected the first Hawaiian representative in 1934 among the branches of a *Porites* sp. coral head on a shallow reef in Kaneohe Bay, Oahu. The color pattern of the present specimen was almost identical with the one described by Edmondson.

Suborder REPTANTIA
Family LATREILLIDAE

Latreillopsis hawaiiensis Edmondson

This species, described by Edmondson (1932:2) from a single specimen, has been collected in Hawaii for the second time. On January 28, 1947, one of these giant, deep-sea crabs became entangled in the fish lines of a fisherman who was bottom-fishing to a depth of 500 fathoms, 5 miles directly off Kewalo Basin, Oahu, and it was subsequently brought to my attention. Since the type specimen was taken at 30 fathoms and the present specimen was collected at 500 fathoms, it is apparent that the bathymetric range of this unusual crab is great.

The greatest length of this male specimen is 126 mm.; the greatest width is 111 mm., almost identical with the type specimen in size. The rostral spine and the supraocular spines are worn

down greatly. Other morphological features check with the original description.

Two species of lepadid barnacles thickly clothe certain parts of the exoskeleton. The barnacles are grouped closely in the exhalant branchial grooves and on the mouth parts. Many others are attached to the pereiopods and to the carapace and abdomen. These same barnacles occur on the type specimen, but are much less abundant.

Two pereiopods, the right third and fifth, are severed at the fracture plane and the fractured surface contains only the darkened diaphragm which indicates that the appendages were probably lost during the ascent of the animal to the surface. The remaining legs show no signs of recent regeneration. Round punctures at which the exoskeleton has been broken through are present on the merus of the right cheliped, on the carpus of the left cheliped, on the merus of the left fourth pereiopod, and on the merus of the right second pereiopod. Similar punctures were present on the type specimen.

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